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Group A streptococcal infections: first report of seasonal activity, 2018/19

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Group A streptococcal infections: first report on seasonal activity in England, 2018/19

Current scarlet fever activity during the early part of the 2018/19 season suggests a continuation of elevated incidence seen since 2014, although slightly reduced from that recorded at this point last season (weeks 37 to 08, 2017/18) [1]. This makes the 2018/19 season the sixth consecutive season of elevated scarlet fever activity.

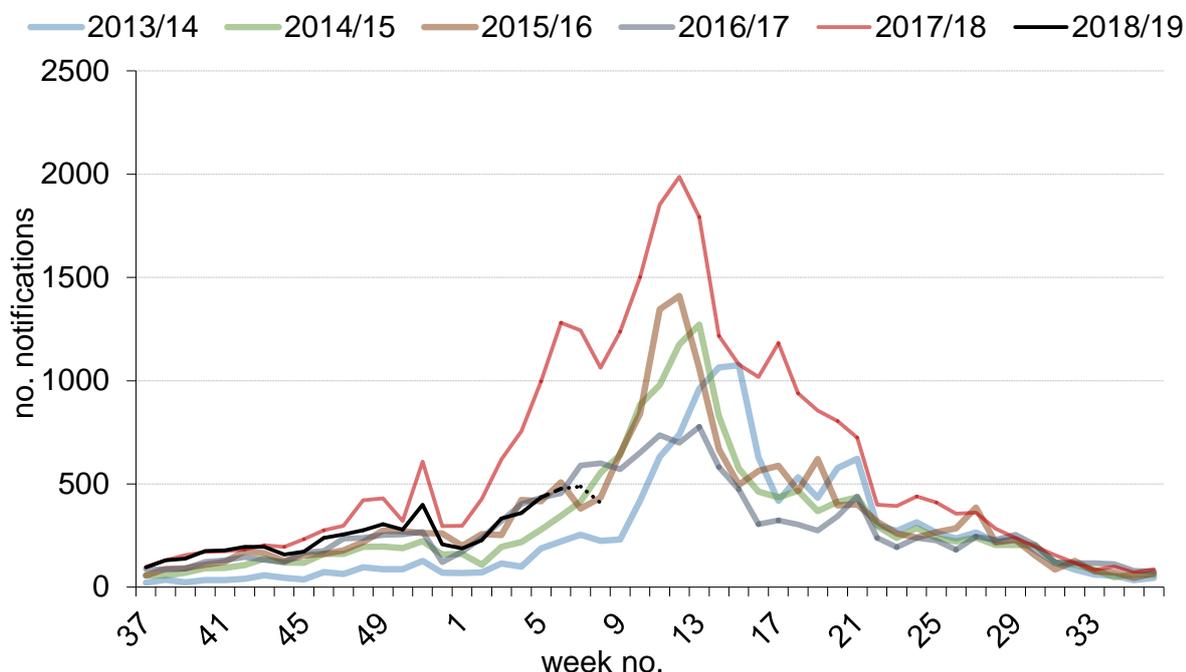
GPs, microbiologists and paediatricians are reminded of the importance of prompt notification of cases and outbreaks to local Public Health England (PHE) Health Protection Teams (HPTs), obtaining throat swabs (prior to commencing antibiotics) when there is uncertainty about the diagnosis, and exclusion of cases from school/work until 24 hours of antibiotic treatment has been received [2].

The number of laboratory notifications of invasive group A streptococcal (iGAS) disease are also above average compared to that normally reported at this point in the season. Due to rare but potentially severe complications associated with GAS infections, clinicians and HPTs should continue to be mindful of potential increases in invasive disease and maintain a high degree of clinical suspicion when assessing patients.

Scarlet Fever

Routine monitoring of statutory notifications indicates an increase in scarlet fever cases in January 2019, in line with the usual pattern of seasonal increase at this time of year (figure 1). A total of 6,316 notifications of scarlet fever have been received to date this season in England (weeks 37 to 08, 2018/19) compared to an average of 6,680 (range: 4,418 to 10,876) for this same period in the previous five years. In the seasons prior to the upsurge seen since 2013/14, the average for this time point was 1,603 (range 1,133 to 2,185; seasons 2009/10 to 2012/13). Weekly notification totals of 477 and 487 were recorded in recent weeks (weeks 6 and 7), lower than those observed for the same weeks last year (1,281 and 1,244). A total of 31,893 scarlet fever notifications were made in England and Wales last year, the highest since 1960.

Figure 1. Weekly scarlet fever notifications in England, 2013/14 onwards*



*Dashed line indicated numbers may increase as further notifications expected.

Scarlet fever notifications to date this season showed some variation across England, ranging between 8.3 (East of England) and 14.5 (North West) per 100,000 population (table 1); after the North West the highest observed rates were in the North East (14.2), Yorkshire and the Humber (14.0), East Midlands (13.7) and the South West (12.0).

Table 1. Number and rate per 100,000 population of scarlet fever (weeks 37 to 08) and iGAS (weeks 37 to 07) infection notification rate by English region in season 2018/19

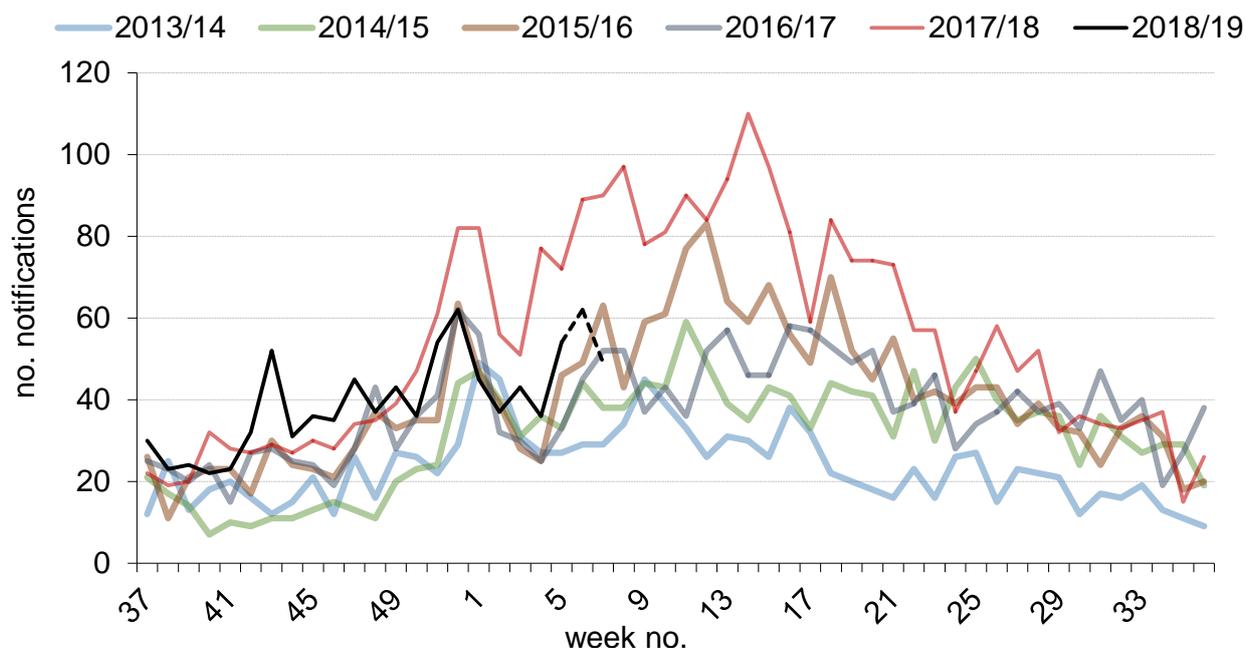
PHE Centre Name	Scarlet Fever		iGAS	
	No. cases	Rate	No. cases	Rate
East of England	528	8.3	76	1.2
East Midlands	649	13.7	79	1.7
London	824	9.4	129	1.5
North East	374	14.2	48	1.8
North West	1,050	14.5	143	2.0
South East	901	10.3	123	1.4
South West	662	12.0	81	1.5
West Midlands	570	9.8	110	1.9
Yorkshire and the Humber	758	14.0	171	3.1
England	6,316	11.4	960	1.7

The age distribution of scarlet fever cases notified so far for this season remains similar to previous years, with 88% being children under 10 years (median 4y; range <1y to 82y) and a near equal split between males (49%) and females overall. Rates of infection were highest in 1 to 4 year olds at 523 per 100,000 population, followed by 300/100,000 in the 5 to 9 year olds. Rates were much lower in the adult population with 58/100,000 population in the 15 to 44 year olds, and 4/100,000 in those aged 45 to 64 years.

Invasive Group A streptococcal infection

So far this season (week 37 to 07 2018/19), there have been 911 notifications of iGAS disease reported through laboratory surveillance in England, which is higher than the average (729) for the previous five years (range 532 to 1,077) but lower than 1,077 for 2017/18 (figure 2). The highest rates this season were reported in the Yorkshire and Humber region (3.1 per 100,000 population; table 1), followed by the North West (2.0/100,000), West Midlands (1.9/100,000) and North East regions (1.8/100,000). Yorkshire and Humber and London regions had higher rates compared to the same point last season.

Figure 2. Weekly laboratory notifications of invasive GAS infection, England, 2013/14 onwards*



*Dashed line indicated numbers may increase as further notifications expected.

The median age of patients with iGAS infection so far this season is 56 years (range <1y to 104y), which is within the range seen at this point in the preceding five seasons (52y to 62y). Ten per cent of infections reported this season are in children (<10y), which is lower than the average for the previous 5 seasons (13%; range 10% to 17%). Rates of infection were highest in the 75 years and over age group at 6 per 100,000 population, followed by 3/100,000 in the less than 1 year age group.

Analysis of reference laboratory iGAS isolate submissions indicates a diverse range of *emm* types identified in 2019 (January and February 2019) with a continued dominance of *emm* st1 (22% of referred isolates). Other common types this season are *emm* st89 (12%) and *emm* st3 (7%).

Antimicrobial susceptibility results from routine laboratory surveillance indicate erythromycin non-susceptibility in 10% of GAS sterile site isolates, which is higher than at the same point in the last five seasons (5-7%). The susceptibility testing of iGAS isolates against other key antimicrobials (tetracycline, 18%; clindamycin, 8%) indicate a slight elevation in resistance at this point in the season although isolates remain universally susceptible to penicillin. [1]

Discussion

Early indications strongly suggest that we will see a sixth season of elevated scarlet fever activity this year, continuing the increases seen since the 2013/14 season. Continued escalation over the coming weeks is likely with peak activity typically occurring between weeks 11 and 15 (mid-March to mid-April).

Close monitoring, rapid and decisive response to potential outbreaks and early treatment of scarlet fever is vital, especially given the potential for complications associated with GAS infections. [3,4]

The number of cases of iGAS disease notified through routine laboratory surveillance in England remains elevated at this point of the 2018/19 season. This follows an exceptionally high year of iGAS reporting in England, where 2881 cases were notified in 2018. Clinicians, microbiologists and HPTs should continue to be mindful of potential increases in invasive disease and maintain a high index of suspicion in relevant patients

as early recognition and prompt initiation of specific and supportive therapy for patients with iGAS infection can be life-saving.

Invasive disease isolates and those from suspected clusters/outbreaks should be submitted to the Respiratory and Vaccine Preventable Bacteria Reference Unit at Public Health England, 61 Colindale Avenue, London NW9 5HT. Relevant guidelines/FAQs are available on the PHE website, as follows:

- Guidelines on infection control in schools and other childcare settings, including recommended exclusion periods for scarlet fever and guidelines on management of scarlet fever outbreaks, can be found at: <https://www.gov.uk/government/publications/scarlet-fever-managing-outbreaks-in-schools-and-nurseries>
- FAQs on scarlet fever can be found at: <https://www.gov.uk/government/collections/scarlet-fever-guidance-and-data>
- Guidelines for the management of close community contacts of invasive GAS cases and the prevention and control of GAS transmission in acute healthcare and maternity settings are also available here: <https://www.gov.uk/government/collections/group-a-streptococcal-infections-guidance-and-data>

Weekly notifiable disease reports are published each week for a timelier update, these can be found at: <https://www.gov.uk/government/collections/notifications-of-infectious-diseases-noids>

References

1. PHE (2018). [Group A streptococcal infections: first report on seasonal activity in England, 2017/18](#). *HPR* **12**(5): infection (news) report.
2. PHE. [Guidelines for the public health management of scarlet fever outbreaks in schools, nurseries and other childcare settings](#).
3. Lamagni, T. *et al* (2018). Resurgence of scarlet fever in England, 2014–16: a population-based surveillance study. *The Lancet Infectious Diseases*. **18**(2): 180-187 (February).
4. Watts, V. *et al* (2019). Increased risk for invasive Group A Streptococcus disease for household contacts of scarlet fever cases, England, 2011–2016. *Emerging Infectious Diseases* **25**(3): 529-537.

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Health Protection Report is a national public health bulletin for England and Wales, published by Public Health England. It is PHE's principal channel for the dissemination of laboratory data relating to pathogens and infections/communicable diseases of public health significance and of reports on outbreaks, incidents and ongoing investigations.

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